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DR. MITCHELL'S ADDRESS,

Delivered before the N. York Agricultural Society, November 12, 1822.

Gentlemen of the Society, and Fellow Citizens,

Addresses, on occasions like this, have become so common, that it is almost to be regretted the call for them has not ceased. Yet it seems difficult to close such a scene as the present, without offering a few observations, particularly as they are prompted by the surrounding objects. Indeed, if remarks on the improvements already made, and rapidly making among us, have any pertinence or value, now is the proper time to offer them.

I was always friendly, as I still am, to the public patronage extended by law to societies for promoting the interests of agriculture and the useful arts. It manifests a liberal and noble spirit—it invites the citizens to exertions they would not otherwise make, and as it is not compulsory, they can decline acceptance if they disapprove the terms.

In acceding to the conditions, our association has shewn its good sense. A spirit of emulation has arisen which has produced excellent effects.

Persons have been brought together for laudable purposes, who would otherwise never have met. Productions and articles of various kinds have been offered for exhibition, which could, only in this way, have been viewed to so much advantage.

In all these displays it becomes us to acknowledge the goodness of the almighty Ruler of heaven and earth, who enables his creatures to advance in wisdom and skill, as well as in virtue and piety.

I congratulate you on the appearance of general advancement in the business of the society. The highways are very much mended; the strata of granite and gneiss have been broken up and converted into stone-fences. Bridges of the best construction connect the opposite shores of some rivers; and ferries of modern excellence offer remarkable facilities for crossing the waters of others. The ease, safety and speed of travelling are increased, and the condition of inclosures, buildings, forests and fields, evince the good order of farmers.

As indications of the prevailing spirit, I bring to your recollection the periodical works devoted to the cultivation of land, the due application of labor, the introduction of better machinery and implements, and the multiplication of valuable produce, which do honor to their respective editors in Albany, Baltimore and Boston.—It is a reasonable expectation that the proprietors of the soil in all the states, will extend an increasing patronage to such respectable and instructive publications.

It is pleasing to notice the Horticultural Society established in this county, and pursuing successfully its object. The exhibitions of the produce of gardens during the season, have enabled the directors to present interesting reports to their fellow citizens. It would seem that such laudable exertions must have a highly beneficial effect upon the market, both as to the quality and quantity of the articles. In a survey like the present there is a peculiar delight in noticing the mechanical and scientific institution now organizing for instructing tradesmen and citizens in those principles of nature, which elucidate the processes of art. The well directed efforts of the managers merit applause, and cannot fail to be servicable to the great cause.

Our own premiums for butter have excited strong emulation among the proprietors of dairies. It is ascertained that it can be prepared in as neat and exquisite a style, as in any other place. And whenever the purchasers shall be willing to pay the additional expense, it may be decorated with prints, and refrigerated with ice, to suit the most refined taste.

Allied to this is milk, the daily supply of which to the inhabitants of a populous city, is more considerable than is generally supposed. Considering the extensive and perpetual use of this liquid, I wish it had been ascertained by fair experiment what course of keeping and feeding would be best for the cows which afford it.

I am peculiarly pleased with the bonnets now as well as heretofore offered at our show. It has been the good fortune of our ingenious females, among whom I mention Misses Harrison, Hedges, and Babcock, to discover that the *bent-grass*, (*agrostio,*) and the *spear-grass*, (*poa,*) are excellent materials for the manufacture. The Tuscan fabrics that we receive from the banks of the Arno, through Leghorn, are made of the straw from a dwarf variety of wheat, (*Triticum.*) As far as I can judge, our native grasses may be worked and bleached into forms quite as beautiful as the wheat. I hope they will be found to possess more toughness and flexibility, wear better, and last longer. The raw material is cheap: the quantity inexhaustible. We must leave to the patience and skill of the ladies the determination of the question how far it may be practicable or expedient to establish manufactories among us. My feelings and wishes are in their favor. I trust they will grow and thrive.

From the excellence of the works in silk before us, we have full proof that our artists are proficients in dying and weaving. Whenever the state of society shall arrive in which the culture of this article shall be found profitable, we already know that both the tree and the animal are congenial to our climate. The white Mulberry grows perfectly in our soil, and the Bombyx prepares its cocous as completely as in any part of the world. It is delightful to contemplate the resources of future industry, and to behold through the glass of prophecy, this family of insects, labouring under proper direction for the comfort and decoration of the human race. I observe with what satisfaction you beheld the vest patterns, the watch ribbands, the sewing-silk and other articles. The fabrics of cotton afford matter for the most agreeable reflection.

The plant whose seed is enwrapped and cradled as it were, by the precious down, has become naturalized to the more southern states. Though the Gossypium displays its yellow blossoms, and discloses its ripening capsules occasionally in New-York, there is reason to believe that it cannot be relied upon as a crop, by reason of the early frosts, further north than the banks of the Roanoke. We receive it, however, in vast quantities, of various qualities, and upon the best terms, from Charleston, Savannah, Mobile, New-Orleans, and the other parts of the regions where it grows, since its introduction into Georgia by my friend the late Governor Milledge. The arts of spinning, colouring, weaving and putting up the goods, seem to be fully understood. A strong recommendation of our domestic articles of this class, is the better twist of the thread, and the more compact texture of the web; whereby it has a decided superiority over the starched goods of England, and the fleazy ones of India. An examination of the Sheetings, Shirtings and Ginghams before you, has verified this remark.

Wool, and its fabrics, have acquired, as they deserve, a high share of consideration. In a country subjected to the influence of cold for nine months, and of fashion for the whole twelve, the manufacture of clothing from this material, is a business of high moment. Accordingly it has attracted a corresponding degree of attention. Foreign wool, is admitted free of duty. In addition to the varieties of sheep, whose fleeces are of a longer and coarser staple, the merino breeds of Spain are now domesticated for furnishing the material of the finer fabrics.—Ware houses are established for buying and selling the tools and utensils of the trade, as well as the different kinds of the staple. Manufactures have grown up to respectable and encouraging height. And the stockings, the flannels, the coatings, the blankets, the carpets and broadcloths, are among the things which bear witness of the skill, the industry, and the capital employed.

I cannot forbear to notice the machines invented to facilitate the dressing of the bark, rind, or cortical part of flax, by several persons at home and abroad. The price of linen cloth is so high, that the patriot and economist will agree in opinion that all practical efforts to reduce the extravagant price of this elegant article of dress, are worthy of special countenance and regard.

Hemp, I rejoice to assure you, may be raised to any requisite amount, as New-York and Kentucky have abundantly proved. If henceforward we derive it from Russia and Poland, it will be imported from the convenient exchange of commercial objects between friendly nations, rather than from any necessity we are under to procure from that source cordage or canvas for our shipping.

Our works in wood are admirable. Ships, carving, cabinet-ware, household furniture and utensils, squared and sawed lumber, staves, masts, yards, and the almost numberless fabrics of wood, are a mighty and important article of our domestic produce, proving the excellence and variety of the raw material, and the ability of the workmen to improve it. The barrels, casks, hogsheads, trays, ladles, spoons, boxes, and baskets, may be considered as samples of this interesting art, in certain branches of which

the religious and laborious society called *Shakers* has attained an honorable distinction. Cork may be here mentioned, whose operations are conducted with remarkable excellence, and to a great extent. Works in leather have been offered to you. It is not my intention to enter into a disquisition upon the methods pursued for towing, tanning, or otherwise preparing the raw hide of an animal. Suffice it to observe, that the government does not require any duty on imported skins; that they are converted into materials for the best of fabrics, by our tanners and curriers; and that the cordwainers and stitchers transform them into shoes, boots, harness, caps, gloves, military accoutrements, and a great variety of other important things. The oil, bark, lime, and every thing, are derived from the exertions of our fellow citizens.

I group together the metallic arts. The founderies for casting in iron, are excellent in a high degree. These, and the establishments for constructing the apparatus for steam-boats, afford topics for a discourse of greater length than the present. Gold-beating, working in silver, the making of gilded and plated wares, operations in compounding and manufacturing zinc and copper into brass, the art of the tin-plate worker, the pewterer, the type-founder, the looking glass manufacturer, the wire-drawer, the pin-maker, and a multitude more of artizans, in addition to the black-smith and the white-smith, add to the importance of this enumeration. Among these, or allied to them, I mention with satisfaction the preparations of quicksilver, antimony, sulphur, lead, potash, soda, and other articles prepared for medicinal purposes. And I add with equal pleasure, the proficiency made in the cutler's art, whereby surgeon's instruments, razors, pen-knives, and other tools of exquisite edge and finish, are duly shaped and finished.

Among the improvements whose benefits this country has already began to experience, are the canals, or the artificial rivers, a magnificent undertaking, that is intended to connect the Atlantic Ocean by the Hudson river, with the inland waters of North America, and their dependencies through Lake Champlain and Lake Erie, the latter a length of three hundred and sixty miles. The native water-proof cement has reached us from the interior strata, and is in successful use, equal to the Roman Cement, as imported from abroad. Salt, not inferior for whiteness, purity, and flavour to the best heretofore imported from foreign places, reaches us in baskets and boxes, from the inexhaustible sources south of Ontario. Flour, as excellent in all respects, as that we heretofore received from Richmond, is brought from Utica, and other productions of prime importance, will soon follow them. The political economist gazes with astonishment upon a work which associates the eastern and western sections of our union in closer ties, which pours abundance into this city, and reciprocates the advantage by distributing plenty through all the contiguous and almost immeasurable lands.

But I find myself obliged to turn to other objects. Our relations to the Central Board of Agriculture, and the Society for the Promotion of the Useful Arts, at the seat of our state government, continue to be interesting and important. Nor are we unknown to certain societies formed for similar purposes in governments beyond the seas.

The Gorgonilists of Florence, in Italy, persist in their respectful and friendly desire, to correspond and commune with us, on husbandry, botany and rural affairs.

The National Academy of France, superintending the agronomical operations of that mighty kingdom, and the means for rendering the land more easily productive, has evinced to us the desire felt by the royal establishment, to learn what is doing here in the same department of occupation and research, and to partake of all the consequences of a liberal intercourse.

In like manner, the Imperial Society of Agriculture, for Austria, in sending us their statutes, catalogue of members, and volumes of transactions, have made an overture toward an acquaintance, which I am proud to announce and desirous of imitating.

The exhibition of domestic animals, the kine, sheep, swine, and horses, are highly honourable to the care and judgment of the breeders.

Permit me while I am addressing you, gentlemen to make a few suggestions for your consideration.

The axe and the firebrand have been employed with such destructive fury against the forest which the first settlers began to encounter, that fuel has grown dear and timber is become scarce. The culture of the Locust, the Chesnut, the Hickory, the Blackwalnut, the bass wood, and the oak, would well reward the planter, and secure wood for its various purposes to his estate and his successors.

There is such heavy damage and loss, by the voracity of vermin, that measures for destroying these noxious animals, or for preventing their ravages, ought to be speedily adopted. Insects are the chief of these mischievous agents. Almost every vegetable, whether wild or cultivated, has its attendant insects or troop of insects to prey upon it. Their history deserves to be better known. Their metamorphoses, through their fourfold state of being call for an exact series of observations. All the species, in their several forms of existence, ought to be collected into museums for instruction. We should then know them, as it becomes us to know our enemies, and be prepared to resist their attacks. To preserve their exact form and hues, good drawings should be made and correct histories annexed. Thus the grubs and caterpillars of every insect, would be understood, as well as their state of crysalis and perfect or winged evolution. The farmer might derive help from the wrens, sparrows, and other birds that live upon insects, if he would receive these visitors with kindness, and take them under his protection.

Another subject is the felicity of cultivators in the neighbourhood of the ocean. Experiments of a recent date have proved, that sea salt, applied to land, in due proportion, is a good manure. Some reports which I have read, seem to establish the fact. Experiments repeatedly made by myself, upon the rain water of this very region in which we reside, have convinced me that the fluid of showers contains a portion of this fertilizing material. This appears universally the case, in a greater or less degree, at least under all circumstances in which I have chemically inquired into it. I am satisfied the saline ingredient rises by spontaneous evaporation; and we all possess proof, that it is elevated with the spray of the sea, the wind rolls them to the shore.

A maritime air is therefore charged, more or less, with this ingredient, descending in dews and rains, upon the vegetable growth below.—While we thus interpret this grand provision of nature, distributing gratuitously *salt, in due quantity, with rain*, to invigorate our crops, and at the same time to satiate the appetites of animals, let us understand that the operations of gypsum in the interior districts, is but an equivalent favor. There they have the sulphate of lime, and here we have the muriate of soda—with this difference, that the former requires an artificial application, while the latter is bestowed upon us without exertion or price.

With such possessions and prospects as are ours, there is no cause of envy or jealousy towards our brethren of any section of North America, or of the terraqueous globe. Our lot is cast here; and under the exercise of our faculties, our abode, during the term of our continuance, will furnish every thing that rational persons have a right to expect. And when our race shall be run, and our toil terminated in this sublunary dwelling, will commence the actual enjoyment of the treasure we have laid up in Heaven, "where neither moth nor rust doth corrupt, and where thieves do not break thro' nor steal."

From the London Medical and Physical Journal.

The greater facility with which zootic pathology can be reduced to experimental certainty, makes us anxious to express our gratitude to those who pursue the subject on a rational system: on this account we cannot withhold a tribute of thanks to M. Teissier, who has lately been engaged in researches on the period of gestation of the females of several domestic animals. The following is a summary of the results:—

"Out of 575 cows, 21 calved between the 240th and 270th day: mean term 259 1-2—544 between the 270th and 299th: mean term 282—10 between the 299th and 321st: mean term 303. Thus, between the shortest and the longest gestation, there is a difference of 81 days, that is, more than one-fourth of the mean duration.

"Out of 277 mares, 23 foaled between the 322d and 330th day: mean term 326—227 between the 330th and 359th: mean term 344 1-2—28 between the 361st and 419th: mean term 390. Between the shortest and the longest gestation there was an interval of 97 days; as before, more than one-fourth of the mean duration.

"Observations were made on two she-asses only: one foaled on the 380th, and the other on the 391st day,

"Out of 912 ewes, 140 lambed between the 146th and 150th day: mean term 143—676 between the 150th and 154th: mean term 152—96 between the 154th and 161st: mean term 157 1-2. Here the extreme interval is only 15 days, to a mean duration of 152; that is, only one-tenth.

"The mean term of seven female buffaloes was 308 days, and the extreme difference 27 days.

"The extreme gestations of 25 sows were 109 and 143 days.

"The extreme terms of gestation of 172 rabbits were 27 and 35 days; difference 8.

"In the duration of the incubation of domestic fowls, differences of from 5 to 16 days were observed. These cannot be ascribed to acci-

dental differences of temperature ; for, according to the observations of M. Geoffroi de Sainte Hilaire, the same differences are found in the duration of the development of the chickens hatched by the Egyptians in ovens.

"From the whole of his observations M. Teissier infers, that the period of gestation is extremely variable in every species. Its prolongation does not seem to depend either upon the age, or more or less robust constitution of the female, or upon the diet, the breed, the season, or the bulk of the fœtus, and still less upon the phases of the moon."

When we consider that in the inferior animals most organic actions are more regular than in man, we can now no longer be surprised at the uncertainty which sometimes attends the period of gestation in the most experienced matrons. May there not be the same variety in the growth of the fœtus as in the child before puberty ?

It is inconceivable what effect lime has on the productiveness of the earth. Philosophers have investigated its nature and properties, to find out the secret spell by which it works ; and while some have attributed the effect to its power of decomposing putrescible matter, or to its affinity for carbonic acid, others have ascribed it to the change effected on the constitution of the soil. All, however, are agreed, that no land, after its first and natural richness has been exhausted by cropping, can continue fertile without a mixture of this fossil. Its use was the first thing which revived English agriculture after it had long languished in the most abjected state ; and the first thing too, which raised Scotland to opulence and independence. Lime, as a manure, has found its way into France and Germany ; and it is blended with the soil along the shores of the Baltic. In southern latitudes this mineral manure is more generally applied, either incorporated with clay in the shape of marl, or combined with the sulphuric acid in that of gypsum.

Lime is found of extremely different qualities ; and in proportion as science comes to enlighten our practice, we will turn our attention to the character of the rock from which this fossil is taken. Pure limestone consists of nine parts of carbonic acid, and eleven of calcareous earth ; and of course, in the process of burning—which is employed solely to expel the acid by the action of red heat, it will lose 9-20ths of its specific weight as drawn from the kiln. Shells of first quality will require more than their own weight of water to slake them ; and every one bushel, when reduced to powder, will measure three. When the lime is intermixed with sand, flint, or clay, its loss in calcination will be less, the shells will yield a smaller proportion of powder, and what is still more curious, will require a less quantity of water. As there are great inequalities in the mixture of these foreign ingredients, so the product in powder and the quantity of water used in slaking, may be employed as certain measures of the value of the limestone.—The color, to a certain extent also, ascertains the purity ; but this cannot be relied on infallibly, as there may be a portion of magnesia in combination, which, on account of its equal whiteness, cannot be discriminated by the eye. It is plain, that when our different rocks come to be wrought, these tests will be of infinite advantage, and point out to the farmer and mason, those which will yield the most calcareous earth—the substance which both of them are in quest of, for the purposes of their respective arts.

To the farmer it is an object, to cart the lime, when fresh from the kiln. By exposure to the atmosphere, this earth attracts carbonic acid, and returns to its original weight, usually in the proportion of a twentieth part of each of the first five or six days ; but if spread out to the air, recovers it much more rapidly. While it is light of carriage, it should be transported to the soil with which it is intended to be mixed, instantly slaked, and then scattered and harrowed on the surface. Delay here is of pernicious tendency if inert vegetable matter is to be acted on ; as the causticity of the lime or its power of decomposing animal or vegetable matter, is most active in its simple state, before its affinity has been exerted on the carbonic acid of the atmosphere : but if the application is meant to improve the earthy texture of the soil, or to supply calcareous matter to the vegetable organization, there is no necessity for such haste, as this fossil, considered as a carbonate, is of infinite value to the farmer, and moreover is supposed by some inquirers to be peculiarly useful in this latter case. Directions* are even given against using it in the former particularly in soils rich in putrescent manure, because it lessens the solubility of those compound products that go directly to the nutriment of the plant.

*Davy's Agricultural Chemistry, page 320, 321.

Letters of Agricola.

From the Providence Journal.

The President of our University has, from experiments in Hydraulicks, discovered an improvement in Flumes, which, at most mills, perhaps all, will increase the force of the water, and, at some will double or treble it. Where mills are now in operation, this improvement may produce a small expense. For this discovery, he has, we learn, obtained Letters Patent from the President of the United States.

Rice Glue.—An elegant cement may be made from rice flour, which is at present used for that purpose, in China and Japan. It is only necessary to mix the rice flour intimately with cold water, and gently simmer it over the fire ; when it readily forms a delicate and durable cement, not only answering all the purposes of common paste, but admirably adapted for joining together paper, cards, &c. in forming the various beautiful and tasteful ornaments which afford so much employment and amusement to the ladies.—When made of the consistence of plastic clay, models, busts, basso relievos, &c. may be formed and the articles when dry are susceptible of a high polish and are very durable.

Portland Gazette.

Manufactures & Agricultural varieties.—Among the articles which obtained premiums at a late agricultural fair in Alleghany county, (Penn.) were *Japanned Waiters* and *Trays*, made at Pittsburgh ; *Castor Oil*, from fifteen acres of beans raised in that county ; and *Segars* from tobacco also raised in that county.

N. Y. Statesman.

Water.—A late English paper says, "Recent experiments, in many parts of England, have proved, that supplies of the best water may be obtained by properly boring the earth to a sufficient depth. The expense appears to be trifling, while the result is of the highest importance to all landed property. Fountains have been made in parishes where water has usually been sold by the gallon, which yield a constant supply, the year round, of a hogshead per hour."

This appears probable enough, when we call to mind how salt water is procured throughout the western states of the union.

Niles's Register.

On Wednesday last, a highly interesting experiment was made with a machine, constructed by Messrs. Fenton, Murray and Wood, of this place, under the direction of Mr. John Blenkinshop, the patentee, for the purpose of substituting the agency of steam for the use of horses in the conveyance of coals on the iron rail way, from the mines of J. C. Brandling, Esq. at Middletown, to Leeds. This machine is, in fact, a steam-engine of four horses' power, which, with the assistance of cranks turning a cog wheel, and iron cogs placed at one side of a rail way is capable of moving, when lightly loaded, at the speed of ten miles an hour.

At four o'clock in the afternoon, the machine ran from the Coal-staith to the top of Humslet-moor, where six, and afterwards eight waggons of coals, each weighing 3 1-4 tons, were hooked to the back part.—With this immense weight, to which as it approached this town was superadded about fifty of the spectators mounted upon the waggons, it set off on its return to the coal-staith, and performed the journey, a distance of about a mile and a half, principally on a dead level, in twenty three minutes, without even the slightest accident. The experiment, which was witnessed by thousands of spectators, was crowned with complete success ; and when it is considered that this invention is applicable to all rail-roads and that upon the works of Mr. Brandling alone, the use of fifty horses will be dispensed with, and the corn for the consumption of at least two hundred men saved, we cannot forbear to hail the invention as of vast public utility, and to rank the inventor amongst the benefactors of his country.—*Leeds Mercury.*

A young lady in London, who was handsome, and had a fortune of £12,000, while she was buying some small articles of a young shopkeeper, with whom she had some trifling acquaintance, took a piece of Flanders lace, and, out of mere gaiety and frolic, went hastily out without paying for it. The shopkeeper, who had a good head for speculation, followed and seized her, and charged her with the theft ; and in a serious and peremptory manner, said to her, "Miss, you may take your choice, either to go with me before a magistrate and suffer the penalty of the law for stealing my lace, or go before a clergyman and marry me." After a short pause, (and who could blame her ?) she chose the latter.—*London paper.*

A red cedar gate-post has lately been taken up at Philadelphia, fit for fresh use, which was put down 90 years ago. It is to be marked for further experiments.

From the National Ægis.

MINERALOGICAL.....No. III.

The connection between practical Agriculture and the theories of science is too extensive to be brought into view in the narrow limits of a single essay. To develope all the causes of sterility, to examine the qualities essential to a good soil, to correct and neutralize those which are injurious to plants, would require a detailed investigation of the laws of vegetable economy. Inquiries like these are interesting in the pursuit and valuable in their results. When they shall have been cultivated by those, who possess the taste and the patience so necessary to their successful prosecution, by those who can trace the various operations constantly going on in the great laboratory of Nature, those difficulties which now perplex and discourage will be overcome, and the art of scientific cultivation will be reduced to established and fixed rules, as simple as the axioms of Mathematics. The remarks which have been made, and the examples which have been adduced to show the advantages which would flow from the study of Mineralogy, so far as it relates to the knowledge of soils and the adaptation of plants to their varieties, have been brief and few, and the view which has been taken of the subject hasty and imperfect. It will not, however, have been useless if it should have directed the attention of the intelligent to an object well deserving examination.

It remains that we point out some of those mineral productions of our neighbourhood, which may become sources of profit, either as applicable to the amelioration of the earth, or from some adventitious circumstance which may render them valuable. This portion must from necessity be even more imperfect and defective than the former. Observation has not yet been employed in the search for those treasures which are hidden in the deep recesses of our hills, or in the caverns of the rocks. The hammer of the Mineralogist, whose peculiar province it is to discover the hiding places of the gem and the metal, has never yet been heard in our shady forests or silent valleys. The eye of curiosity has not yet explored those situations, where the ores were deposited when the mountains were piled upon their foundations. It cannot be said that this section of our country is rich in minerals, for there is at present too little known of those beneath its surface, to justify the assertion. Certain it is, that it possesses some which must form important articles of commerce, of manufacture, and increase the wealth and resources of its industrious and prosperous inhabitants. No regular examination has yet taken place, and for our knowledge of those which most readily present themselves to notice, we are indebted to accidental curiosity.

The art of mining has as yet received but little attention in this country. Young and growing as it is, labour is occupied in the clearing and improvement of the earth. It is not to be expected that were all are busied in strewing the seed into the furrow and gathering in the abundance of a generous harvest, that researches which are generally, though erroneously considered as uncertain and hazardous, should be undertaken, or if commenced that they should be prosecuted with the skill and zeal so essential to a successful issue. Popular superstition has guarded the beds of the jewels with so many fanciful beings, the offspring of heated imagination, and peopled the dark habitation, of those metals whose utility as media of exchange, depends entirely upon their scarcity, with so many protecting spirits, that it requires no small degree of courage in adventuring to invade the dominions of those powers, who were supposed to be ready to inflict punishments on those who would steal from them the treasures they are commissioned to keep. It is amusing to find how many stratagems credulity and ignorance have put in practice, to deceive their vigilance. Some have dug deep at midnight, in places where a little experience must have convinced them, that nothing existed to reward their toil, thinking these subterraneous divinities might be then slumbering on their posts, and afterwards have laid the burden of their disappointment upon the omission of some mysterious ceremony, instead of fathering it upon their own folly. The art of farming is a distinct profession, and requires experience for its practice. Nor is an acquaintance with its rules valuable to the farmer, except as furnishing him with an uncommon method of rendering his farm productive. If portions of it are barren in consequence of mineral substances, instead of wasting labour in the attempt to render its soil fruitful, he may go beneath and gather crops more valuable than those of the corn or potatoe.

One of the sinews of agriculture, indeed the spring which sets all its various implements and machines in motion, is Silver. This article has been a native of Worcester County. In the year 1754, a vein of this metal in combination with iron and lead, was discovered in the shire town passing down into a hard rock of that description denominated Quartz. A shaft was sunk to a considerable depth, by a company formed for the purpose of working a mine on the spot.—Tradition does not inform us why it was abandoned; whether on account of the small quantity of ore obtained, the expense of excavation, or the want of sufficient skill in those employed. Examination of the specimens which are still found about the mouth of the opening, shows that about 2 parts of 100 are silver, the remainder Iron, Lead, Sulphur and Arsenic. How far it is fair to judge of the ore as it came from the mine, by these pieces, which were undoubtedly thrown aside at the time of working it, as not suitable for melting, it is not easy to decide. It is said that the same metal was found at other places not only in the same town but in other parts of the county.—Lead has been noticed in union with other minerals, but not in quantities sufficient to induce the belief that it could ever become important.

It is a remarkable fact that Iron, the mineral most useful to man, is most widely diffused over the earth. Forming as it does a necessary of his existence, employed as it is in every art, being the material for supplying the instruments for every manufacture, it is most providential that it should be thus distributed over the face of the globe. In this county it exists in almost every stone, ledge, and hill. It gives a bright red to our walls, it tinges our soils with a yellower shade, it communicates its taste to many of our springs, and with sulphur forms those beautiful cubes which from their color and lustre might be easily mistaken for gold. Furnaces have been erected in some parts, and the abundace of the metal would justify the establishment of many more.

Arsenic is also found, not in its native and pure state, but in union with other metals, communicating to them a white color and a peculiar odour.

Lime is most important in its economical application to the common purposes of life. Every one knows its use in architecture and how much it contributes to the durability and convenience of buildings. All are apprised of the advantages resulting from its agency, in increasing the harvests, and forwarding the maturity of vegetables. This mineral in the state of the Carbonate, is found in the Northern part of Worcester county. When employed as a cement, it is not inferior to the Lime of any other section. As yet it has not been used as a manure long enough to test its properties.—From the quantity of Magnesia with which it is mixed, its success on some soils would be doubtful.

Clay is one of the most useful substrata of our meadows at a certain depth. Besides the ease with which it is converted into a material for constructing edifices, it is valuable for changing the texture of those fields which do not retain moisture. The Marl which is prized so highly in those situations where it can be obtained, is composed of Clay and Lime. Of the good qualities of this earth, and of the astonishing effects which it has produced, much has been said, by foreign writers. As the two ingredients which are its components, exist in their separate state, in abundance, it is not a very rash prediction, that they may be found united in such proportions, as to form a substance of all others, most necessary to the Farmer. The conclusion is so rational that they may be found thus mixed, from the fact that minerals readily change characters and intermix freely with each other, that it would well repay the time and attention necessary for the examination of our argillaceous earths.

The same remark is applicable to the Plaster of Paris or Sulphate of Lime. Sulphur or its acid, combined with Iron, glitters on almost every wall, or tinges the rocks with its yellow hue, and Lime is found in vast beds in this county. From these circumstances, a strong probability results, that there are situations, where the hand of Nature may have mingled together these ingredients, and that the Gypsum may be obtained nearer than Nova Scotia, and at a less expense than the price it would command, even when transported by water.

That these assumptions have no better foundation than conjecture, must be confessed. How far they are reasonable every one can decide for himself. Two minerals are seldom found in the same locality, entirely separate from each other. A transition carries one into the other, so that it is difficult to determine where one ends and the other begins. In these situations the qualities of both are blended together. The affinities which some substances have for others dispose them readily to unite. The subject deserves some attention, and should the opinions that have been advanced be established by experience, the advantage would exceed calculation.

The enumeration will be continued in our next number.

A FARMER.

FACTS AND OBSERVATIONS RELATING TO AGRICULTURE & DOMESTIC ECONOMY.

FOR THE NEW ENGLAND FARMER.

FRUIT TREES.

"The seeds of a nursery should be planted in rows five or six feet apart, that carrots, potatoes, or bush beans may be planted between them. This will be an inducement to keep the nursery clean. Cherries, peaches, plums, and other stone fruit, should be planted while the stones are moist, or with the meat on them. In this way they come up with more certainty. It is a good practice to plant the seeds in beds, and to remove the young trees to the nursery. This will give an opportunity of early removing the tap root, and of increasing and directing the lateral roots. The dwarfs in a nursery are not worth cultivating, and ought to be removed; there are commonly enough thrifty trees without them.

"In taking up trees, care should be used not to injure the roots. The tap roots should be cut off, the broken roots pruned with a sharp knife, and the lateral roots should be carefully preserved, and should have sufficient room in the ground to spread. The trees when set out should have the same aspect, as when standing in the nursery. It is useful to place a small quantity of hay or straw around them, to prevent the sun from taking up too much of the moisture, and to keep the ground from becoming dry and hard. This should be removed before snow falls, lest it harbor mice. On dry land, not exposed to be moved by frost, transplanting is safest and best in autumn; otherwise in the spring. Trees are more thrifty, will bear sooner, and more plentifully, near fences, and will less incommode the cultivation of the field.

"In forming the head of the tree, all the limbs, which will be likely to rub across other limbs, should be early removed. By neglecting to do this in season, the tree may be injured by causing large wounds. By pruning when the circulation is most active, the wounds will soonest be healed. It is safest, when the wounds are large, to cover them with some kind of plaister to keep out the water and air, and prevent rotting. Mature trees, it is said, will produce more and fairer fruit by being pruned when in blossom.

When mice have injured the bark, it is useful to cover the wound with dirt, or some kind of plaister. When entirely girdled, the tree may be preserved by connecting the under and upper lips of the bark with a suitable number of scions. It is a good preservation against injuries by mice, to tread down the snow, when it first falls, for a foot or two about the tree."*

Address by Rev. Abiel Abbot, to the Essex Agricultural Society.

* For a recipe for preserving trees from mice, see No. 16, p. 123.

TO REMOVE FRUIT STAINS OR IRON MOULDS FROM LINEN OR COTTON CLOTHS AND OTHER SUBSTANCES.

Moisten the spot with water, and hold it in the fumes of a brimstone match. If a red rose be held in the fumes of a brimstone match, the color will soon begin to change, and at length the flower will become white.

Muriatic acid (spirit of sea salt) removes the stains of common ink, but it does not affect printer's ink. It is therefore recommended for cleaning old books and prints. Half an ounce of red lead being added to three ounces of common muriatic acid renders it fit for this use. If indigo and oxid of manganese be added to common ink, it will prevent its being effaced by muriatic acid.

The citric acid (lemon juice) is proper for removing ink-stains from linen, but they are best removed soon after they occur. If they remain long in the cloth, the iron in the ink acquires that degree of oxidizement, which renders it insoluble in acids. When ink stains have thus become what are called *iron moulds*, they may be removed by oxalic acid (a substance extracted from sorrel) or by first washing them with a sulphuret of potash (formed by triturating or pounding together equal parts of sulphur and pure potash, till the mixture becomes green) and then applying the citric acid as usual.

ANTIDOTE AGAINST CONTAGION.

An English chemical work of high authority, states that "accounts have been received from Spain, that in the midst of the dreadful contagion which reigned in that country, the inhabitants of those houses, where fumigations of chlorine gas* were used, had no attacks of the sickness, and enjoyed the best health. Care must be taken in the use of this gas, because it is so suffocating that it cannot be breathed without injury."

* Chlorine gas is produced by distilling a mixture of manganese, common salt, sulphuric acid and water. See Parkes's Chemical Essays, vol. iv, p. 68.

SUBSTITUTE FOR YEAST.

Carbonate of ammonia (or the kind of saline substance which is used in smelling bottles) is now much used by bakers in England, as a substitute for yeast.

RECIPE FOR PRESERVING LEMON JUICE OR LIME JUICE.

Strain the juice through fine muslin or filtering paper, and add as much loaf sugar as is necessary to make it sweet; then put it in a bottle which must be nearly filled, corked, waxed, tied over with wet bladder, and put into boiling water for an hour. Let it cool gradually, and put it by for use.—*Domestic Encyclopedia.*

RECIPES FOR PURIFYING PUTRID WATER.

If putrid water be agitated with a small quantity of magnesia it will lose its bad taste and smell in a few minutes. Alum may likewise be used for the purpose of purifying and sweetening water which has become fœtid and unfit for use. Each gallon of water requires, according to its impurity, only from five to ten grains of calcined alum, and double or treble that proportion of charcoal, in order to render the most offensive water perfectly sweet and pellucid. The ingredients, however, ought to be preserved in close vessels, or their efficacy will be considerably diminished.

GLASS VESSELS, HOW PURIFIED.

All sorts of glass vessels and other utensils may be purified from long retained smells of every kind, in the easiest and most perfect manner, by well rinsing them out with charcoal powder, after the grosser impurities have been scoured off with sand and potash.

Crell's Journal, vol. 2, p. 170.

WELLS, HOW FREED FROM FIXED AIR.

Carbonic acid gas, or fixed air, so often occupies the bottom of wells, that workmen ought never to venture into such places, without previously letting down a lighted candle. If the candle burns, they may enter with safety; if not a quantity of quick lime should be let down in buckets, and gradually sprinkled with water. As the lime slacks it will gradually absorb carbonic acid gas, and the workmen may afterwards descend in safety.

THE BEST MODE OF ADMINISTERING OPIUM.

Citric acid, [lemon juice] has been found, within a few years to be useful in medicine. It is said that the largest dose of opium may be checked in its narcotic effects, if a proper quantity of citric acid be taken with it; and that with this addition, it induces cheerfulness, instead of stupefaction, succeeded by gentle and refreshing sleep.

Parkes's Chemical Catechism, p. 171, 10*th ed.*

When farmers employ a great deal of lime, it sometimes happens that their horses' feet are burnt by it, which is extremely troublesome, and sometimes proves even fatal to the poor animals;* a method of preventing or remedying that circumstance will therefore be of use.

The best method of preventing any inconvenience of this sort, is to spread the lime, when in its powdery state, upon the field as evenly as possible, and allow it to lie in that state sometime before you begin to plough it. If the lime has been in fine powder it will have become effete in a week or so; after which time it will be as little corrosive as any kind of common earth, so that the horses may work among it with perfect safety—but if it has been suffered to run into clods before it was spread, these, if not broken small, will be longer in absorbing their air, and, of consequence, will remain longer in an acrid state, so that in that case the ploughing may be deferred a week or so longer; nor will it then be so perfectly safe as the other.

But if it becomes necessary at any time to plough in the lime immediately after it is spread, take care to do it only when the soil is perfectly dry; and in leading your horses to the plough, take care to prevent them from going through any wet place, so as to wet their hoofs or ancles; for lime acts not at all upon any dry substance—but when it is in its acrid caustic state, it would corrode the hair and flesh in a moment, if it has access to water. As soon as the horses are unharnessed, keep their feet dry till you have got them carefully brushed, so as to wipe away all the dry powdery lime that may adhere to them; and if the least shower should fall, unyoke your horses immediately, and take them off the field.

But in case of any accident, by which a horse or man that is working among lime should be scalded by it, it is always advisable for every farmer, who has work of that kind going forward, to keep a tub of very sour milk or whey in some place, ready to wash the part affected with it, which will quickly destroy the poignancy of the lime, and prevent the mischief that would otherwise arise from it. The sourer the

* I have known several horses actually killed by this means, and others so disabled as never to be perfectly well afterwards.

milk or whey is, the better it will be for this purpose; it ought therefore to be long kept.* For want of this vinegar will produce the same effect, or very stale urine will be of use—but the milk or whey is the cheapest and best remedy, and ought always to be in readiness.

Anderson's Essays.

* Not too long lest it undergo the putrid fermentation which will destroy its acidity, and render it less fit to *neutralize* the lime, on which its usefulness depends.—*Ed. N. E. Farmer.*

PURIFICATION OF FISH OIL AND VEGETABLE OILS.

If any of these oils be boiled with tan, the tan will combine with the substance that occasions their color and smell, and the offensive matter being thus rendered *insoluble* will precipitate.

SALTING MEAT.

Muriatic acid [spirit of sea salt] is said by some authors to be a pleasant and wholesome condiment for food. Sir William Fordyce gives an account of a victualler who acquired a large fortune from possessing a secret that had enabled him to send out to the Indies provisions in a better state of preservation than any others of the trade. His whole secret was that of putting a small quantity of muriatic acid into each cask.—*Parkes's Chemical Catechism.*

A steel instrument may be distinguished from an iron one thus:—If a drop of nitric acid be let fall upon it, it will occasion a black spot if it be steel, but will not have this effect if it be wrought iron.

The following directions are recommended in cases of the burning of females, by their clothes having caught fire. If no person is present to assist her, she may relieve herself by throwing her clothes over her head, and laying down and rolling upon them. She must by no means run away, and flame always tending upwards, much of the mischief will be prevented if a person in that unfortunate situation will throw herself on the ground, and if possible roll about her a carpet, hearth rug, &c. If another person be present, then, without any regard to delicacy, such person should instantly pass the hand under all the clothes to the lowest garment, and raise the whole together, and close them over the head, by which, in an instant almost, the flame will be indubitably extinguished. This is the most expeditious and effectual method of preventing the dire effects of a terrible accident which is perpetually occurring.

[Or, roll the person in the carpet. This is one of the many accidents owing to the preposterous customs of open fire places, and muslin dresses in winter.—T. C.]

Domestic Encyclopedia.

From the American Farmer.

Hints and Experiments on the selection of Seeds, particularly of Vines.

Allen County, Kentucky, Aug. 30.

J. S. SKINNER, Esq.

Dear Sir—I will now give you a short account of an experiment I made with vine fruit. Having for many years observed, that some pumpkins, water melons, cucumbers, and cymblin vines run ten, twelve, and even fifteen feet before any fruit appeared, and that others would have fruit before they run half that distance, I concluded there was a natural reason for its being so. And in 1819 I took a cucumber and split it lengthwise and sub-divided it into three equal parts across the fruit, and kept the seeds carefully apart, those in the end near the vine, I marked But seeds, and those from the centre, Middle seeds, and those from the end on which the bloom grew, Top seeds, and I planted them separately, in new ground, well manured for the experiment in the spring of 1820; I carefully attended to three hills from seeds of each part of the fruit, divided as stated above, the hills being about twelve feet apart. All of the plants were alike flourishing; the vines from the But seeds ran from eight to ten feet before any fruit appeared, and these were small, with a neck; the vines from the Middle seeds ran from four to six feet before fruit appeared; the fruit was better and without a neck and four fold; the vines from the Top seeds produced fruit large, fine and in abundance, and the first fruit was on the third joint of the vine from the surface of the ground.

I have continued to save seeds from the top or bloom end, and now have cucumbers on the first and second joint, &c. I have been endeavouring to make the experiment on all kinds of vine fruit; corn and peas likewise, but the cut worms have in a great measure, disappointed me; notwithstanding this I have succeeded so far as to satisfy myself that real advantages may be gained by making such selections of seeds. I would have given the above account last year, but I wished to carry the experiment completely through a variety of kinds, &c. If it is new, or you consider it worthy attention, you are at liberty to give it an insertion in your paper.

I am your's with esteem,

SAMUEL GARRISON.

THE FARMER.

BOSTON:—SATURDAY, NOV. 30, 1822.

NEW SYSTEM OF SHOEING HORSES.

We have lately perused with much satisfaction a treatise, entitled "*New System of Shoeing Horses, abridged from the Works of Joseph Goodwin, Veterinary Surgeon to His Majesty George IV. and Member of the Royal College of Surgeons. Containing a Comparison between the English and French methods, and Observations on the Diseases of the Feet, connected with Shoeing. To which are added Observations on Bleeding and the Pulse; a concise View of the Anatomy of the Foot, Notes, Remarks, &c. By* JOHN B. BROWN, M. D. M. M. S. S." *Ornamented with cuts.* Boston: Wells & Lilly; 12 mo. pp. 140.

We do not pretend to be greatly versed in the science which is the subject of this little Treatise. We are, however, strongly impressed with the importance of the topics which it discusses, and know that it was originally compiled and abridged by gentlemen who are eminently competent to the tasks they have undertaken.

In France and in England public Schools or Colleges have been founded, patronized by the respective governments, and endowed with ample funds for the purpose of teaching the useful art of Farriery, which in this country is left, we fear, almost exclusively in the hands of men, who are as ignorant of the most important principles of the art, which they pretend to practice, as the unfortunate animals they practice upon. With them every thing is "*guess work*," and they know as little of the anatomy of a horse, or the symptoms, character, or correct mode of treating his diseases, as they know about the soil, climate, and productions of one of Herschell's planets. The Veterinary art, notwithstanding its acknowledged importance, seems to be considered as an art for which no apprenticeship, and a science for which no study is requisite. Those who profess any knowledge of the diseases of domestic animals, for the most part, either pretend to know what they do not know, and are therefore a dangerous species of impostors, or their knowledge must have been *born with them*, (since they have had no chance to acquire it) Mr. Locke's notions relative to innate ideas to the contrary notwithstanding. Indeed it cannot be expected that the professors of any art will make any great acquisitions in the science appropriate to their vocation if the art itself is held in disrepute, and its professors are ranked, by virtue of their calling, in the lowest caste of the human species. People who are not respected are not apt to make themselves respectable, and as long as a *horse-doctor* and a *cow-doctor* are considered as terms of reproach, and an acquaintance with the diseases of domestic animals, as degrading to the character of a biped, who aspires to be one of the "lords of creation," we must expect that ignorance, temerity and cruelty will predominate in one of the most important departments of Domestic and Rural Economy. Physicians, till within a few years, appear to have thought that a knowledge of the diseases of horses and cattle was an attribute, which degraded its possessor; and as Pope says in substance,

"Not to know *such* trifles is a praise."

The two-legged "*creatures*" to whom the management, in sickness or health, of four-legged creatures was exclusively committed, never appeared to be impressed with the truth of another assertion of the same poet,

"Act well your part, there all the honor lies;"

but, on the contrary, they viewed their part as a mean one, and of course it was no matter how *badly* it was acted.

In France and Great Britain, more correct ideas on this subject have been for some time prevalent. Great men in those countries are not ashamed to be useful, and useful men in the Veterinary art, as well as other arts, are considered as great men. In France the knowledge of the diseases of domestic animals has long been taught in public schools, patronized and supported by government. In England, near the close of the last century, a Veterinary College was founded under the auspices of some of the most distinguished and public spirited characters. In this institution the whole art of medicine and surgery, so far as they relate to horses, &c. together with the true principles of shoeing and of treating horses, while in a state of disease and of health was, and we believe is still, publicly taught by a surgeon, who had made them his study, and who has the designation of Professor of the Veterinary Art. The Duke of Northumberland was President of this College, and among the Vice Presidents were the Earls of Grosvenor, Morton, Oxford and Rivers; Sir George Baker, Sir T. C. Bunbury, Sir William Fordyce, and the celebrated John Hunter, Esq. Pancras was fixed upon as the scite of this College, on account of its vicinity to London. A handsome sum was allowed by Parliament, annually, for the support of this Institution. Mr. Coleman, who has been highly celebrated for his skill and veterinary science, was one of its Professors; and if we mistake not, the author of the book from which the subject of this notice is abridged, is now one of the Professors of this College. The advantages, therefore, of the author of the English edition of

this work were as great, probably, as any part of the world can afford; and that they have been faithfully improved may be presumed from the responsibility attached to his situation, and the talents which alone could have recommended to an office, that could neither be hereditary, purchased by money, nor held as a sinecure. We have no doubt but Dr. Brown has faithfully abridged the original work, and by so doing is entitled to the gratitude of every person in the community who either owns or ever has occasion for the services of the valuable animal of which it treats. But, as we said before, we do not pretend to be conversant either with the art or science which form the subject of the work we are presuming to notice, and shall therefore conclude this article by appending thereto the Preface of Dr. Brown, which explains the objects of the publication, and, we think, cannot leave a doubt of its utility in the mind of any intelligent reader.

"The Editor of this abridgment, has no other object in its publication, than to meliorate the condition of that very useful animal, the Horse, by presenting to the American public Mr. Goodwin's New System of Shoeing. Mr. G.'s original work upon this subject is expensive; and if republished in this country, probably would not be generally read by those who might be most benefited by it. It has therefore been thought advisable to abridge it. In this abridgment the editor has been careful to select every thing, necessary to give to the mechanic, a full and practical knowledge of Mr. Goodwin's principles and method of shoeing, and it is believed that it contains information, which will compensate any one who feels an interest in the horse, for a careful and attentive perusal.

"A circumstance very favorable to the adoption of this new system of Shoeing, is that there can be no danger of injury to the foot, from the *change*, if the shoe be properly put on, however long the horse may have been shod according to the method usually adopted in this country. The principal alteration necessary to be made in the form of the hoof is, at the toes, which is usually thick, and not very likely to be injured by any one tolerably acquainted with the anatomy of the parts. A bad workman may bring disgrace upon any system of shoeing, or any other mechanical operation, however good it may be in itself, when properly executed.

"The editor of this abridgment does not take upon himself the responsibility of recommending Mr. Goodwin's system of shoeing horses, nor will he feel himself in any degree implicated in its success. He presents it to the public, as it is, and the public will judge and determine whether it be an improvement upon our present method of shoeing, or not. If no attempt be made to improve, certainly no improvement can be expected. Whatever the opinion of the reader may be with regard to the particular method of shoeing recommended by the author, it is believed that he will find the work itself to contain much useful information, relative to the subject on which it treats; and it is hoped that its publication, *here*, will serve a useful purpose."

MAGNESIAN LIMESTONE.

A writer, who has published several essays in the National Ægis, at Worcester, which we have republished, remarks, (see page 140,) that lime "in the state of the Carbonate, is found in the Northern part of Worcester county. When employed as a cement it is not inferior to the lime of any other section. As yet it has not been used as a manure long enough to test its properties. From the quantity of Magnesia with which it is mixed, its success on some soils would be doubtful." We are glad to see the attention of that writer turned to the subject of Mineralogy, as connected with Agriculture, and cheerfully contribute our mite of information to promote the object of his essays.

Magnesian limestone has generally been supposed to be hurtful to vegetation, but we believe that when it has proved injurious, it has been in consequence of its having been used to excess, or in its *hot* or *caustic* state. "Magnesia when combined with carbonic acid gas, seems not to be prejudicial to vegetation, and in soils rich in manure, it is speedily supplied with this principle from the decomposition of the manure. Under common circumstances the lime from Magnesian limestone is used in moderate quantities upon fertile soils in Leicestershire, Derbyshire, and Yorkshire, with good effect; and it may be applied in greater quantities to soils containing very large proportions of vegetable matter."

"Amongst some specimens of limestone which Lord Somerville put into my hands, two marked as peculiarly good proved to be magnesian limestones. And lime made from the Breedon limestone is used in Leicestershire, where it is called hot lime; and I have been informed by farmers in the neighborhood of the quarry that they employed it advantageously in small quantities, seldom more than 25 or 30 bushels to the acre. And that they find it may be used with good effect in larger quantities, upon rich land.

"A minute chemical consideration of this question will lead to its solution.

"Magnesia has a much weaker attraction for carbonic acid than lime, and will remain in the state of caustic, or calcined magnesia for many months, though exposed to the air. And as long as any caustic lime remains, the magnesia cannot be combined with carbonic acid, for lime instantly attracts carbonic acid from magnesia.

"When Magnesian limestone is burnt, the Magnesia is deprived of carbonic acid much sooner than the lime; and if there is not much vegetable or animal matter in the soil, to supply by its decomposition carbonic acid, the Magnesia will remain for a long time in the caustic state; and in this state acts as a poison to vegetables. One of the most fertile parts of Cornwall, the Lizard, is a district in which the soil contains mild Magnesian earth."—*Dary's Agricultural Chemistry.*

Quere. How would it answer to pulverize Magnesian limestone without burning, like Plaster of Paris and apply it in the proportion of from 20 to 30 bushels to an acre? In Scotland, pounded limestone is used for manure.

FARMER SUMMARY
OF FOREIGN AND DOMESTIC EVENTS.

Success of the Greeks.—An article published in Paris, Oct. 12, states that shortly after a signal defeat of the Turks, they (the Turks) suddenly re-appeared at the foot of the Souli Mountains with 15,000 men. The situation of the Greeks was then very precarious, and it was resolved to destroy their wives and children to prevent their falling into the hands of the enemy, and then rush upon them, and sell their lives as dearly as possible. This resolution reached the ears of the Greek women, but they had influence to prevent its execution, and succeeded in restoring confidence amongst them.—It was then resolved that the women, (who insisted upon it) should arm, and 800 were selected and armed. The men amounted to 3000. After invoking the Deity in their favour, they attacked the enemy, the women vieing with the men in feats of personal valour, and drove them far from Souli. The result of the action has been 1350 prisoners and four pieces of cannon. The loss of the Greeks was 167 men, and 17 women.

The Great Congress of European Powers was expected to meet at Verona on the 18th of October.

A great earthquake has taken place at Aleppo, in Syria, which buried from 23 to 30,000 of the inhabitants and destroyed more than 20,000 houses.

A war exists between the Turks and the Persians, and the latter have lately gained considerable advantages over the former. Selim Pacha, with 15,000 men, has deserted from the Turks to the Persians.

An instrument for ascertaining the longitude has been invented by a Mr. Harley, in Scotland, which it is said by competent judges will completely answer the purpose on land or at sea in calm weather. The reward for the discovery of a complete instrument for ascertaining the longitude is 20,000 pounds.

A London paper states that Mr. Canning's principles are more liberal than those of the late Marquis of Londonderry; and that there is reason to believe him to be so well inclined to the Greek cause that he will undertake something in its favour.

The story lately republished from the London Globe respecting a great secret discovered in the art of tanning, for which the inventor had received a large sum of money, turns out to be fabulous.

Dodart, in a communication to the Royal Academy of Sciences at Paris, computed that an elm, every year, at a medium, produces 330,000 seeds; and therefore supposing it to live 110 years, 33 millions of seeds during its whole age. Fern is far more fertile in seeds. Hartstongue produces in a year a million of seeds. These seeds must have a use beyond continuing their species.

Since the discovery of the New-World, our English gardens have produced 2345 varieties of trees and plants from America, and upwards of 1700 from the Cape of Good Hope, in addition to many thousands which have been bro't from China, the East Indies, New-Holland, various parts of Africa, Asia, and Europe; until the list of plants now cultivated in this country exceeds 120,000 varieties.—*London paper.*

The Annual Meeting of the Plymouth Agricultural Society was holden at Plymouth, on the 20th of November, inst. Daniel Howard, Esq. was chosen President, and Rev. Morril Allen, and Abiel Washburn, Esq. Vice Presidents. The premiums awarded were to Samuel A. Turner of Scituate, for compost manure $15—Col. B. Murdock of Wareham, for the best crop of hay $10—William Jackson, Esq. of Plymouth, for the best crop of wheat $10—Leonard Hill of Bridgewater, for the best crop of oats $8, and for the best crop of potatoes $7—Solomon Alden of Bridgewater, best crop of corn $10—Alpheus Forbes of Bridgewater, 2d premium for compost manure $10—Jacob Thompson of Middleborough, for the best six lambs $5.

In Virginia a two year old heifer has a calf six weeks old which weighs 185 lbs.

Cotton, of a quality in no way inferior to that which is brought from the South has been raised this year at Oyster bay, L. I.

The Baltimore Morning Chronicle of November 16th, says "it would not be much too early to hear the sleigh bells enlivening our streets, and yet so extraordinary is the season, that we yesterday saw ripe Cherries that were plucked from a tree in this city."

Fuller's Earth.—The Mobile Alabama Register mentions that Fuller's earth had been discovered in that vicinity of a superior quality, and such as will answer every purpose to which that substance is usually applied.

A quarry of marble, of a most beautiful and delicate grain, and said to be equal to the Italian has lately been discovered in Lancaster County, Penn.

A meeting was held at New-York, on the 15th inst. to form a Woollen Manufacturers' Society. This society proposes to give premiums for the best specimens, and to establish regular Fairs in the city, for the exhibition and sale of woollen fabricks.

A Patent Bedstead is advertised in New-York, which may be taken down or set up in one minute, without the use of tools, and does not contain the least harbor for bugs or dirt.

The Court House in Northampton was destroyed by fire on the 20th inst.

Spontaneous Combustion.—Within a month past there have been three instances of spontaneous combustion in large masses of coal in our Navy Yards—at this place, at New-York, and Portsmouth, New-Hampshire, by which each has been in great danger of being destroyed. This coal was obtained from one of the mines near Richmond; was found to contain an unusal quantity of sulphur; lay exposed to the air and rain; and became ignited near the centre of the heaps. It would be well for persons having large quantities of the coal on hand, to examine it frequently, and it would be a subject, worthy the attention of the curious and philosophick, to explain the cause of this ignition.—*Nat. Int.*

A plan is projected to unite the waters of Lake Ontario, with Lake Champlain, by a Canal, across the country from Ogdensburg to Plattsburg.

A new Map of Vermont, from actual survey, by James Whitelaw, Esq. is published with high recommendations.

FOR THE NEW ENGLAND FARMER.

We hope the following sketch from an English poem of the miseries endured by the noble animal whose sufferings are so well described, may a tendency to direct the attention of those who avail themselves of his services to his wants, and induce them to remember that "the merciful man is merciful to his beast."

Short-sighted Dobbin!—thou canst only see
The trivial hardships that encompass thee:
Thy chains were freedom, and thy toils repose,
Could the poor post-horse tell thee all his woes;
Shew thee his bleeding shoulders, and unfold
The dreadful anguish he endures for gold:
Hir'd at each call of business, lust, or rage,
That prompt the traveller on from stage to stage.
Still on his strength depends their boasted speed;
For them his limbs grow weak, his bare ribs bleed;
And though he groaning quickens at command,
Their extra shilling in the rider's hand
Becomes his bitter scourge;—'tis he must feel
The double efforts of the lash and steel;
Till when, up hill, the destin'd inn he gains,
And trembling under complicated pains,
Prone from his nostrils, darting on the ground,
His breath emitted floats in clouds around:
Drops chase each other down his chest and sides,
And spatter'd mud his native colour hides:
Through his swoln veins the boiling torrent flows,
And every nerve a separate torture knows.
His harness loos'd, he welcomes eager-eyed
The pail's full draught that quivers by his side;
And joys to see the well-known stable door,
As the starv'd mariner the friendly shore.
Ah, well for him if here his suff'rings ceas'd,
And ample hours of rest his pains appeas'd!
But rous'd again, and sternly bade to rise,
And shake refreshing slumber from his eyes,
Ere his exhausted spirits can return,
Or through his frame reviving ardour burn,
Come forth he must, though limping, maim'd and sore;
He bears the whip; the chaise is at the door.—
The collar tightens, and again he feels
His half-heal'd wounds inflam'd; again the wheels
With tiresome sameness in his ears resound,
O'er blinding dust, or miles of flinty ground.
Thus nightly robb'd, and injur'd day by day,
His piece-meal murd'rers wear his life away.

FOR THE NEW ENGLAND FARMER.

The person who tells a falsehood, in order to conceal a weak or wicked action, leans upon a broken reed which not only does not sustain him, but threatens every moment to break and pierce his hand.

Innocence and mystery never inhabit long together; and the first step towards vice is to make a secret of actions which are neither vicious nor unbecoming.

A man does well to take advice, but if he is always governed by his advisers he looses his own free agency. Advice is useful to enlighten the understanding, but ought not to direct the will against the dictates of the judgment.

We can forgive those who hate us, and even those who treat us with contempt may be forgiven, but can scarcely be loved. Affection can never blossom, if its bud has been blighted by scorn; or in other words we cannot love those, who make it evident that they despise, or think meanly of us.

Attention to the wants and wishes of those around us, even in matters of small importance, but frequent occurrence, gives the greatest charm to social intercourse.

From the Essex Register.

Mr. Palfray—As it may be interesting to some of your readers, to learn the results of the experiments of some of the most enterprising Agriculturists in the County, I have made an abstract of the Report of the Committee to examine the claims for premiums "on Indian Corn and other crops," and if agreeable to you, should be pleased to have it published. Such evidence was required by the Committee, as leaves no doubt of the accuracy of the statements.

Respectfully, yours,
JOHN W. PROCTOR.

Danvers, Nov. 21, 1822.

Mr. *Daniel Burnham*, of Newburyport, raised on one acre 117 1-4 bushels of Indian corn, weighing 50 lbs. to the bushel. The seed came from the upper part of the Missouri Territory. At present it is uncertain whether this kind of corn can be cultivated to advantage in common seasons.

Mr. *John Lees*, of Newbury, raised on one acre 108 bushels and 20 quarts of Indian Corn, weighing 54 lbs. to the bushel, 18 bushels of turnips, 1750 lbs. of pumpkins, 150 lbs. squashes—estimated equal to 118 bushels of corn to the acre.

Mr. *Henry Little*, of Newbury, raised on one acre 116 bushels and 9 quarts of Indian Corn, weighing 58 lbs. to the bushel.

Mr. *Erastus Ware*, of Salem, raised on one acre 93 3-4 bushels of Indian Corn.

Mr. *Richard Crowninshield*, of Danvers, raised on one acre 90 1-2 bushels of Indian Corn.

Mr. *Daniel Mears*, on the farm of the Hon. *William Reed*, of Marblehead, raised on one acre 87 1-2 bushels of Indian Corn.

Mr. *Jacob Gould*, of Boxford, raised on one acre 72 bushels of Indian Corn.

Mr. *Isaac Dodge*, of Hamilton, raised on one acre 70 3-4 bushels and 5 quarts of Indian Corn.

Mr. *Jacob Wilkins*, on the farm of Benj. T. Reed, Esq. of Marblehead, raised 50 bushels of Barley to the acre.

Mr. *Henry Little*, of Newbury, raised 687 1-2 bushels of English Turnips on one acre.

Messrs. *Silas* and *Joseph Little*, of Newbury, raised 615 bushels of English Turnips on one acre.

Mr. *John Dwinel*, of Salem, raised on 104 1-3 rods of land, 29 tons, one quarter, and 25 lbs. of Beets.

Mr. *Dwinel* also raised 8 tons and 3 cwt. of Carrots, on 111 1-2 rods of land.

Mr. *David Little*, of Newbury raised on one acre 970 1-2 bushels of Mangel Wurtzel, 2 bushels of Carrots, and 107 Cabbages.

The crops of Potatoes and Ruta Baga were not large.

From the New-York American.

The Battle of the Beets.—By this morning's mail, we find the papers from all quarters challenging the world to vie with the mammoth vegetables they respectively describe. These challenges, to say the least of them, are very harmless; and, as there is no probability that the contest will be settled by powder and ball, we feel little anxiety about being involved in the contest, as *participes criminis*, by republishing their notes of defiance.

And first from Ohio—the land of milk and honey. The Sandusky Clarion states that Major Frederick Falley has this season raised a Beet, from the seed of the *Bonaparte Sugar Beet*, which, after trimming off the leaves weighed *thirty pounds*. It measured in length three feet and four inches, in circumference two feet and seven inches.

Next comes our own state, through the medium of the Saratoga Sentinel, the editor of which has possession of a large red Beet, raised in the garden of the Hon. Samuel Young, the present season, which measures two feet four and a half inches in circumference, and weighed, when taken from the ground, *eighteen pounds*.

And now, "Pennsylvania against the world." The Westmoreland Republican announces the satisfaction of having seen one which measured twenty-two inches and an half, and another twenty-three inches and three-fourths in circumference.

The Philadelphia Union also publishes an account of a "gigantic vegetable"—a beet, which grew in the garden of Mr. D. Kramer, which weighs *fifteen pounds and a half*, and measures at the thickest part thirty-four inches, and somewhat lower down twenty-seven inches. The Editor triumphantly asks, "*Who can beat this?*" We refer him to the foregoing statements, and especially to the account in the Sandusky Clarion, which it must be admitted has sounded pretty loud on this occasion.

IMPORTANT INVENTION.

A gentleman of this State, to whom this country is much indebted for his former inventions, has lately completed a Machine for *Cutting Fur from Skins*, without *injury* to the Pelt, which has heretofore been rendered useless for *leather*. It is also ascertained, that this machine will shear Cloth much better than any machine now in use. One man can cut, with this Machine, the fur from 1000 skins per day, or shear 2500 yards of cloth—whereas the cutting of the fur from 50 skins or shearing 120 yards of cloth is considered a day's work, by the present mode of cutting and shearing. Thus there is a saving of 19-20ths of the labour—the fur cut by this machine is pronounced, by good judges, to be better than that cut in the usual way.—Considering the great saving of skins, (particulary the seal,) and labor, we must pronounce it one of the most important inventions which has honored our country.

Palladium.

Hogs.—An Ohio farmer recommends coals, as useful in fattening hogs. After giving his hogs a small quantity daily, say two pieces to each about the size of a hen's egg, they discontinued rooting, were more quiet, and appeared to fatten faster. He omitted the coal a few days and they commenced rooting; he gave it again and they ceased to root. He supposes that the coal corrects that morbid fluid in the stomach which incites them to root deep in search of fresh earth.

LARGE TURNIPS.

To the many extraordinary instances of the strength and fertility of our soil, we take pleasure to add, that William Ladd, Esq. of Minot, in this county, has raised on his farm, this year, turnips of unusual size. He stated to us last week, that he weighed *three* of them, and their joint weight was *sixty pounds!* Beat this who can.—*Portland Gazette.*